

What is claimed is:

1. An integrated reproducing/recording apparatus comprises:

a first reproducing/recording device comprising a first storage medium and a first pickup head for reproducing signals from the first storage medium or recording signals on the first storage medium, said first storage medium having a center hole defined therethrough;

a second reproducing/recording device comprising a second storage medium and a second pickup head for reproducing signals from the second storage medium or recording signals on the second storage medium, said second storage medium having a center hole defined therethrough; and

a spindle located between the first and second reproducing/recording devices and having a first and second fixtures located at two ends thereof, wherein, the spindle moves between the first and second reproducing/recording devices and respectively engages with either the first or the second reproducing/recording device, and when the spindle moves to the first reproducing/recording device, the first fixture of the spindle is engaged with the center hole of the first storage medium to fix the first storage medium on the spindle, and when the spindle moves to the second reproducing/recording device, the second fixture of the spindle is engaged with the center hole of the second storage medium to fix the second storage medium on the spindle.

2. The integrated reproducing/recording apparatus in accordance with claim 1, wherein the spindle comprises a body and two tables respectively extending from two ends of the body, the body and two tables being arranged along one axis of the spindle, the two tables respectively having a

plurality of grooves defined in an end surface thereof, said each groove directed outwardly from the axis in a radial direction of the corresponding table.

3. The integrated reproducing/recording apparatus in accordance with claim 2, wherein each fixture comprises a plurality of elastic elements and balls, each groove accommodates an elastic element and a ball, and the elastic element is engaged between the ball and a wall of the groove near the axis of the spindle.
4. The integrated reproducing/recording apparatus in accordance with claim 3, wherein the first storage medium is a magnetic disk, the second storage medium is an optical disk, and the magnetic and optical disks are parallel with each other.
5. The integrated reproducing/recording apparatus in accordance with claim 4, wherein a signal recording surface of each of the magnetic and optical disks faces away from the spindle.
6. The integrated reproducing/recording apparatus in accordance with claim 5, wherein the first reproducing/recording device has a slant guide element located between the first pickup head and the first storage medium, said slant guide element guiding the first pickup head to contact with the magnetic disk.
7. The integrated reproducing/recording apparatus in accordance with claim 5, wherein the second pickup head is an optical pickup head which has an integrated transmitter and receiver subassembly, a collimator, a prism and

an object lens, and the integrated transmitter and receiver subassembly can transmit and receive two different wavelength lasers.

8. The integrated reproducing/recording apparatus in accordance with claim 1, wherein the spindle rotates at a first speed when the spindle engages with the first storage medium, and the spindle rotates at a second speed when the spindle engages with the second storage medium.

9. An integrated reproducing/recording apparatus comprising:

a magnetic reproducing/recording device comprising a magnetic disk and a magnetic pickup head for reproducing signals from the magnetic disk or recording signals on the magnetic disk, said magnetic disk having a center hole defined therethrough;

an optical reproducing/recording device comprising an optical disk and an optical pickup head for reproducing signals from the optical disk or recording signals on the optical disk, said optical disk having a center hole defined therethrough; and

a spindle comprising a body and a first and second tables respectively extending from two ends of the body, said the first and second tables respectively having a first and second fixtures defined thereon;

wherein, the spindle is located between and can be moved between the magnetic and optical reproducing/recording devices, the first and second fixtures can respectively engage with the center hole of the magnetic and optical disks.

10. The integrated reproducing/recording apparatus in accordance with claim 9, wherein the magnetic and optical pickup heads are respectively adjacent a

surface of the magnetic and optical disks, said surface facing away from the spindle.

11. The integrated reproducing/recording apparatus in accordance with claim 10, wherein a diameter of the body is greater than that of the first and second tables.
12. The integrated reproducing/recording apparatus in accordance with claim 11, wherein a diameter of the first table is less than that of the center hole of the magnetic disk, and a diameter of the second table is less than that of the center hole of the optical disk.
13. The integrated reproducing/recording apparatus in accordance with claim 12, wherein a length of the first table and the second table is respectively longer than the thickness of the magnetic disk and the optical disk.
14. The integrated reproducing/recording apparatus in accordance with claim 13, wherein the first and second tables respectively have a plurality of grooves defined in the end surface thereof, said each groove directed outwardly from an axis of the spindle in a radial direction of the corresponding table.
15. The integrated reproducing/recording apparatus in accordance with claim 14, wherein the fixture comprises a plurality of elastic elements and balls, each groove accommodates an elastic element and a ball, and the elastic element is positioned between the ball and a wall of the groove near the axis of the table.

16. The integrated reproducing/recording apparatus in accordance with claim 15, wherein the elastic element is positioned between the ball and the wall of the groove near the axis of the table, and said ball partially protrudes from an arced surface of the spindle.
17. The integrated reproducing/recording apparatus in accordance with claim 15, wherein the diameter of the balls is larger than a width of the groove at a point near the arced surface of the corresponding table.
18. The integrated reproducing/recording apparatus in accordance with claim 9, wherein the spindle rotates at a first speed when the first fixture of the first table engages with the center hole of the magnetic disk, the spindle rotates at a second speed when the second fixture of the second table engages with the center hole of the optical disk.
19. The integrated reproducing/recording apparatus in accordance with claim 9, wherein the magnetic and optical disks are parallel with each other, and their signal recording surfaces face away from the spindle.
20. The integrated reproducing/recording apparatus in accordance with claim 19, wherein the magnetic reproducing/recording device has a slant guide element located between the magnetic pickup head and the magnetic disk, said slant guide element guiding the magnetic pickup head to contact with the magnetic disk.
21. The integrated reproducing/recording apparatus in accordance with claim 20, wherein the optical pickup head has an integrated transmitter and receiver subassembly, a collimator, a prism and an object lens, and the

integrated transmitter and receiver subassembly can transmit and receive two different wavelength lasers.

22. An integrated reproducing/recording apparatus comprising:

a magnetic reproducing/recording device comprising a magnetic disk and a magnetic pickup head for reproducing signals from the magnetic disk or recording signals on the magnetic disk, said magnetic disk having a center hole defined therethrough;

an optical reproducing/recording device comprising an optical disk and an optical pickup head for reproducing signals from the optical disk or recording signals on the optical disk, said optical disk having a center hole defined therethrough; and

a spindle comprising a body and a first and second tables respectively extending from two ends of the body;

a first fixture element; and

a second fixture element;

wherein, the spindle is located between and can be moved between the magnetic and optical reproducing/recording devices, the first and second fixture elements can respectively mate with the first and second tables to respectively fix the magnetic and optical disk on the spindle.

23. The integrated reproducing/recording apparatus in accordance with claim 22, wherein the magnetic pickup head is adjacent a surface of the magnetic disk facing away from the spindle, the optical pickup head is adjacent a surface of the optical disk facing away from the spindle.

24. The integrated reproducing/recording apparatus in accordance with claim 23, wherein a diameter of the body of the spindle is greater than that of the first and second tables of the spindle.
25. The integrated reproducing/recording apparatus in accordance with claim 24, wherein a diameter of the first and second tables is respectively less than that of the center hole of the magnetic and optical disks.
26. The integrated reproducing/recording apparatus in accordance with claim 25, wherein the magnetic and optical disks are parallel to each other, and a signal recording surface of the magnetic and optical disks faces away from the spindle.
27. The integrated reproducing/recording apparatus in accordance with claim 26, wherein the magnetic reproducing/recording device has a slant guide element located between the magnetic disk and the magnetic pickup, said slant guide element guiding the magnetic pickup head contact with the magnetic disk.
28. The integrated reproducing/recording apparatus in accordance with claim 27, wherein the optical pickup head has an integrated transmitter and receiver subassembly, a collimator, a prism and an object lens, and the integrated transmitter and receiver subassembly can transmit and receive two different wavelength lasers.
29. The integrated reproducing/recording apparatus in accordance with claim 28, wherein the spindle rotates at a first speed when the spindle engages with the magnetic disk, and the spindle rotates at a second speed when the spindle engages with the optical disk.

30. A method of reproducing/recording signals, comprising:
- providing a first reproducing/recording apparatus including a first rotatable disk thereof;
  - providing a second reproducing/recording apparatus including a second rotatable disk thereof;
  - providing a common spindle; and
  - providing moveable means for selectively linking the common spindle and a respective one of the first and second reproducing/recording apparatuses.